

AMENDMENTS TO THE CLAIMS

In the set of claims within the Application, please amend, retain, cancel, or add each claim as hereinafter indicated.

1. (Currently Amended) A method for scatter correction during simultaneous bi-plane imaging, said method comprising the steps of:

- (a) generating a first x-ray flux in a first imaging plane;
- (b) generating a first image readout;
- (c) digitally sampling a first scatter signal from said first x-ray flux in a second imaging plane;

- (d) generating a first compensation signal for said first scatter signal;
- (e) generating a second x-ray flux in said second imaging plane;
- (f) generating a second image readout;
- (g) compensating for scatter in said second image readout with said first compensation signal~~[[;]]~~ ~~[[h)]]~~ by activating a first scatter correction algorithm in response to said second image readout and said first compensation signal;

- ~~[[i)]]~~ h) generating a first image display from said first scatter correction algorithm;
~~[[and]]~~

- ~~[[j)]]~~ i) periodically updating said first image display through stopping a current exposure in said second imaging plane and reading a scatter image update resulting from an exposure in said first imaging plane;

- (j) digitally sampling a second scatter signal from said second x-ray flux in said first imaging plane;

- (k) generating a second compensation signal for said second scatter signal;

- (l) compensating for scatter in said first image readout with said second compensation signal by activating a second scatter correction algorithm in response to said first image readout and said second compensation signal;

- (m) generating a second image display from said second scatter correction algorithm;
and

(n) periodically updating said second image display through stopping a current exposure in said first imaging plane and reading a scatter image update resulting from an exposure in said second imaging plane;

wherein steps (i) and (n) are executed so that said first image display and said second image display are updated during different periods of time which are separated by at least one time period of current exposure in both said first imaging plane and said second imaging plane.

2. (Previously Presented) The method of claim 1, wherein step (d) includes the sub-steps of:

activating a first scatter image formation algorithm;
generating said first compensation signal; and
storing said first compensation signal in a first scatter correction memory.

3-8. (Cancelled)

9. (Currently Amended) A method for scatter correction during simultaneous bi-plane imaging of an object on an x-ray imaging system, said method comprising the steps of:

- (a) generating a first x-ray flux in a first imaging plane;
- (b) generating a first image readout;
- (c) digitally sampling a first scatter signal from said first x-ray flux in a second imaging plane;
- (d) generating a first compensation signal for said first scatter signal;
- (e) generating a second x-ray flux in said second imaging plane;
- (f) generating a second image readout;
- (g) compensating for scatter in said second image readout with said first compensation signal^{[[.]]} by activating a first scatter correction algorithm in response to said second image readout and said first compensation signal;
- (h) generating a first image display from said first scatter correction algorithm; ^{[[and]]}
- (i) periodically updating said first image display through stopping a current exposure in said second imaging plane and reading a scatter image update resulting from an exposure in said first imaging plane;

(j) digitally sampling a second scatter signal from said second x-ray flux in said first imaging plane;

(k) generating a second compensation signal for said second scatter signal;

(l) compensating for scatter in said first image readout with said second compensation signal by activating a second scatter correction algorithm in response to said first image readout and said second compensation signal;

(m) generating a second image display from said second scatter correction algorithm;
and

(n) periodically updating said second image display through stopping a current exposure in said first imaging plane and reading a scatter image update resulting from an exposure in said second imaging plane;

wherein steps (i) and (n) are executed so that said first image display and said second image display are updated during different periods of time which are separated by at least one time period of current exposure in both said first imaging plane and said second imaging plane.

10. (Previously Presented) The method of claim 9, said method further comprising the steps of:

generating a third x-ray flux in said first imaging plane; and
generating a third image readout.

11. (Currently Amended) The method of claim 10, said method further comprising the steps of:

generating a fourth x-ray flux in said second imaging plane;
generating a fourth image readout;
digitally sampling a ~~second~~ third scatter signal from said fourth x-ray flux in said first imaging plane; and
generating a ~~second~~ third compensation signal for said ~~second~~ third scatter signal.

12. (Currently Amended) The method of claim 11, said method further comprising the steps of:

generating a second digital scatter readout;
generating a fifth x-ray flux in said first imaging plane;

generating a fifth image readout; and
compensating for scatter in said fifth image readout with said ~~second~~ third compensation signal.

13-14. (Cancelled)

15. (Currently Amended) The method of claim 12, said method further comprising the steps of:

activating a ~~second~~ third scatter correction algorithm in response to said fifth image readout and said ~~second~~ third compensation signal; and

generating a ~~second~~ third image display from said ~~second~~ third scatter correction algorithm.

16-20. (Cancelled)

21. (Currently Amended) A scanning system comprising:

a gantry;

a first x-ray source coupled to said gantry, said first x-ray source adapted to generate a first x-ray flux and a first plane scatter signal;

a second x-ray source coupled to said gantry, said second x-ray source adapted to generate a second x-ray flux and a second plane scatter signal;

a first x-ray detector system coupled to said gantry, said first x-ray detector system adapted to generate a first detector signal in response to said first x-ray flux and further adapted to generate a first scatter signal in response to said second plane scatter signal;

a second x-ray detector system coupled to said gantry, said second x-ray detector system adapted to generate a second detector signal in response to said second x-ray flux and further adapted to generate a second scatter signal in response to said first plane scatter signal; and

a host computer adapted to receive ~~[[the]]~~ said first detector signal, ~~[[the]]~~ said second detector signal, ~~[[the]]~~ said first scatter signal, and ~~[[the]]~~ said second scatter signal;

wherein said host computer is operable to generate an x-ray image data file as a function of said first detector signal, said second detector signal, said first scatter signal, and

said second scatter signal that is representative of internal portions of an object, said x-ray image data file including (i) first digital data representative of internal portions of said object when exposed to said first x-ray source, (ii) second digital data representative of internal portions of said object when exposed to said second x-ray source substantially often simultaneously with exposure to said first x-ray source, wherein said first x-ray source is displaced from said second x-ray source, said first digital data is periodically modified to compensate for scattered radiation from said second x-ray source, [[and]] said second digital data is periodically modified to compensate for scattered radiation from said first x-ray source, and said first digital data and said second digital data are respectively modified during different periods of time, and (iii) third digital data representative of a characteristic of said object.

22. (Cancelled)

23. (Previously Presented) The scanning system of claim 21, wherein said object is a person and said third digital data is representative of at least one of the person's name, identification number, or physical condition.

24. (Previously Presented) The scanning system of claim 23, wherein said first and second digital data are generated when said first and second x-ray sources are located at least three positions relative to said person, and wherein said at least three positions define an arc.

25. (Previously Presented) The scanning system of claim 24, wherein said arc has a fixed radius.

26. (Previously Presented) The scanning system of claim 23, wherein said first and second digital data are generated when said first and second x-ray sources are located at least three positions relative to said person, and wherein said at least three positions are located along a straight line.

27. (Cancelled)

28. (Previously Presented) The scanning system of claim 23, wherein at least one image is of the person's chest cavity.

29. (Currently Amended) A method of generating revenue, said method comprising the steps of:

(a) generating a first digital data representative of internal portions of an object when exposed to a first x-ray source;

(b) generating a second digital data representative of internal portions of ~~[[an]]~~ said object when exposed to a second x-ray source ~~substantially~~ often simultaneously with exposure to said first x-ray source, wherein said first digital data has been periodically modified to compensate for scattered radiation from said second x-ray source, ~~[[and]]~~ said second digital data has been periodically modified to compensate for scattered radiation from said first x-ray source, and said first digital data and said second digital data have been respectively modified during different periods of time;

(c) generating a third digital data representative of a characteristic of said object; and

(d) generating a request for a payment of money based upon at least said third digital data.

30. (Previously Presented) The method of claim 29, wherein said first and second digital data are generated by respective digital x-ray detectors and are representative of at least one image of said object.

31. (Previously Presented) The method of claim 30, wherein said object is a person and said third digital data is representative of at least one of the person's name, identification number, or physical condition.

32. (Previously Presented) The method of claim 31, wherein steps (a) and (b) include at least one step of exposing a person's chest cavity to said first and second x-ray sources.

33. (Previously Presented) The method of claim 29, wherein steps (a) and (b) include the sub-steps of:

generating first scatter data representative of radiation scattered from said first x-ray source when said second x-ray source is not radiating x-rays;

generating second scatter data representative of radiation scattered from said second x-ray source when said first x-ray source is not radiating x-rays;

performing said compensation of said first digital data based on said second scatter data; and

performing said compensation of said second digital data based on said first scatter data.

34. (Previously Presented) The method of claim 32, wherein steps (a) and (b) include the sub-steps of:

generating first scatter data representative of radiation scattered from said first x-ray source when said second x-ray source is not radiating x-rays;

generating second scatter data representative of radiation scattered from said second x-ray source when said first x-ray source is not radiating x-rays;

performing said compensation of said first digital data based on said second scatter data; and

performing said compensation of said second digital data based on said first scatter data.

35. (Previously Presented) The method of claim 34, said method further comprising a step of transmitting said first, second, and third digital data over a computer network.

36. (Previously Presented) The method of claim 35, wherein said computer network is the Internet.

37. (Original) The method of claim 36, wherein said computer network is one of a wide-area computer network or a local-area computer network.

38. (Previously Presented) The method of claim 29, said method further comprising the step of storing said first, second, and third digital data in reference to said request for payment and data representative of payments associated with said request for payment.

39. (Previously Presented) The method of claim 38, said method further comprising the step of determining a service charge associated with said request for payment.

40. (Currently Amended) A system for imaging internal portions of an object, said imaging system comprising:

a first x-ray source;

a second x-ray source displaced from said first x-ray source;

a first digital detector supported relative to said first x-ray source to generate first digital data representative of the object when exposed to said first x-ray source;

a second digital detector supported relative to said second x-ray source to generate second digital data representative of said object when exposed to said second x-ray source ~~substantially~~ often simultaneously with exposure to said first x-ray source, wherein said ~~first~~ second digital detector selectively generates first scatter data representative of radiation scattered from said first x-ray source when said second x-ray source is not radiating x-rays, and said first digital detector selectively generates second scatter data representative of radiation scattered from said second x-ray source when said first x-ray source is not radiating x-rays; and

a digital data processor coupled to said first and second digital detectors to periodically modify said first digital data with said second scatter data to compensate for scattered radiation from said second x-ray source and to periodically modify said second digital data with said first scatter data to compensate for scattered radiation from said first x-ray source, wherein said data processor is further configured to store third digital data representative of a characteristic of said object.

41. (Cancelled)

42. (Previously Presented) The imaging system of claim 40, wherein said characteristic is one of an object type, an object name, an object location, an object destination, an object identification number, an object owner, an object source, or an object shape.

43. (Previously Presented) The imaging system of claim 40, said imaging system further comprising a human viewable display for generating an image associated with said modified first and second digital data.

44. (Previously Presented) The imaging system of claim 43, said imaging system further comprising:

a conveyor for supporting an object;

wherein said object is one of baggage, packages, liquid containers, or envelopes.

45. (Previously Presented) The imaging system of claim 43, wherein said object comprises a vehicle, and said x-ray sources and said digital detectors are supported relative to a vehicle imaging location.

46. (Previously Presented) The imaging system of claim 43, wherein said data processor is further configured to store third digital data representative of a characteristic of said object, and wherein said object is a person.

47. (Previously Presented) The imaging system of claim 46, wherein said human viewable display is configured to further generate alphanumeric or graphical images representative of said characteristic simultaneously with the image.

48. (Previously Presented) The imaging system of claim 47, wherein said characteristic is one of a name, age, weight, identification number, location, view, or physical condition of said person.

49. (Previously Presented) The imaging system of claim 48, said imaging system further comprising a gantry for moving said x-ray sources relative to said person.

50. (Previously Presented) The imaging system of claim 49, said imaging system further comprising a network interface coupled to said processor for communicating first, second, and third digital data over a network.

51. (New) The method of claim 9, wherein said object includes at least one item selected from the group consisting of a patient, baggage, a package, mail, liquid, and a vehicle.

52. (New) The method of claim 9, wherein said x-ray imaging system is a computed tomography (CT) system.